

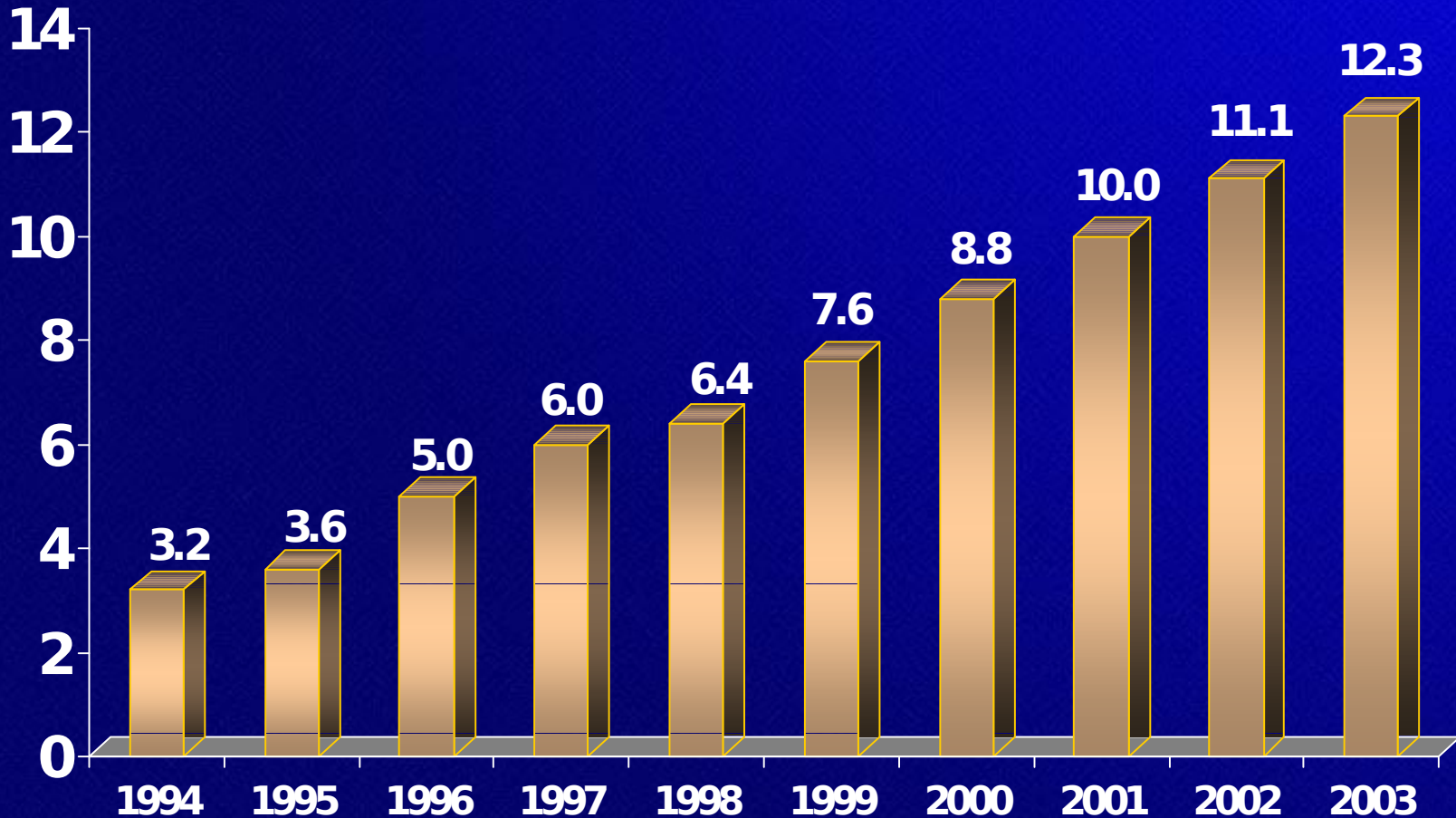
Windows 2000 Professional In A Mobile Environment

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Mobile Opportunity

Millions



Source: IDC Worldwide Quarterly PC Tracker, Q498 Final Update, March 8, 1999

Top 10 Reasons why I hate

my current laptop

My screen isn't large enough to list all my H/W profiles

- ◆ **It takes longer to install my modem, reboot, create a connection, and dial in than it does to drive to work in the first place**
- ◆ **I can plug in new devices but can't find the original installation CD to get the drivers.**
- ◆ **I can't remember the key sequence in order to get into the BIOS to adjust my power settings.**
- ◆ **It takes an 2 hours for my battery to go from 100% - 50% and then 30**

Top 10 Reasons why I hate

my current laptop

- My fan makes my laptop sound like my refrigerator.**
- ◆ I have to reboot so often that I have memorized the BIOS boot-up screen**
- ◆ I can never find a big enough crowbar to extract my laptop out of the dock.**
- ◆ I close the lid on my portable to have lunch on the airplane and when I 'm done eating my battery is dead.**
- ◆ My machine suspends in the middle of a Tech-Ed 99 presentation**
.....and it doesn't come back

Agenda

- ◆ **Software advances**
- ◆ **Hardware advances**

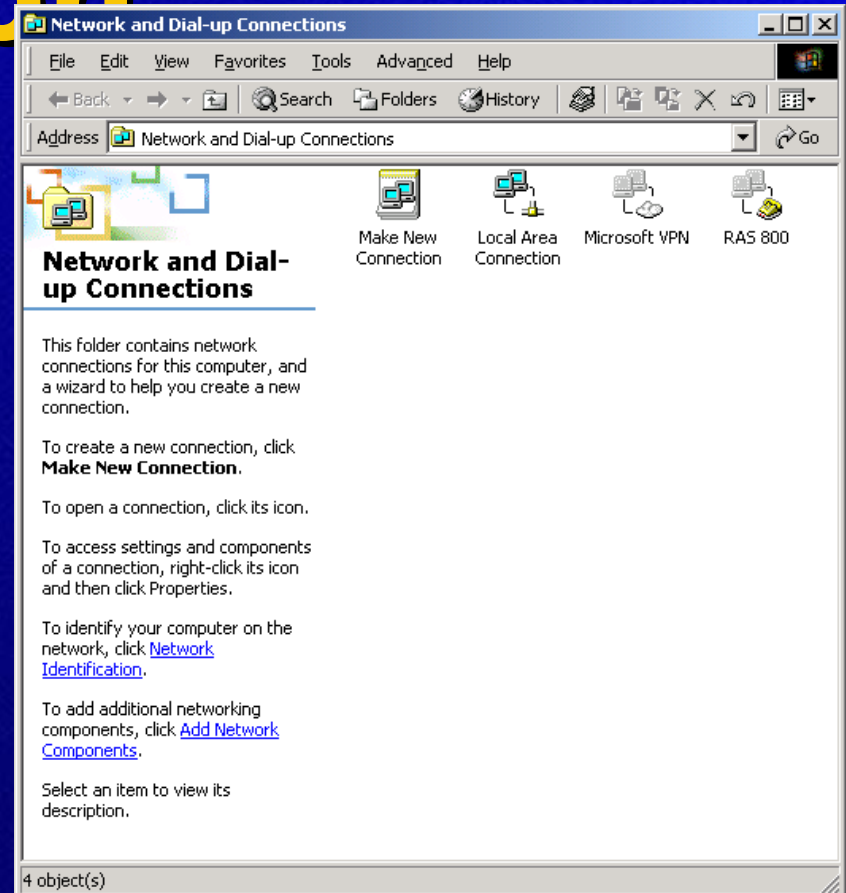
Mobile User

Software Advancements

- ◆ **Easier network setup and configuration**
- ◆ **Easier access to networking**
- ◆ **Easier to configuration of all offline data**
- ◆ **Offline Files for traditional file shares**

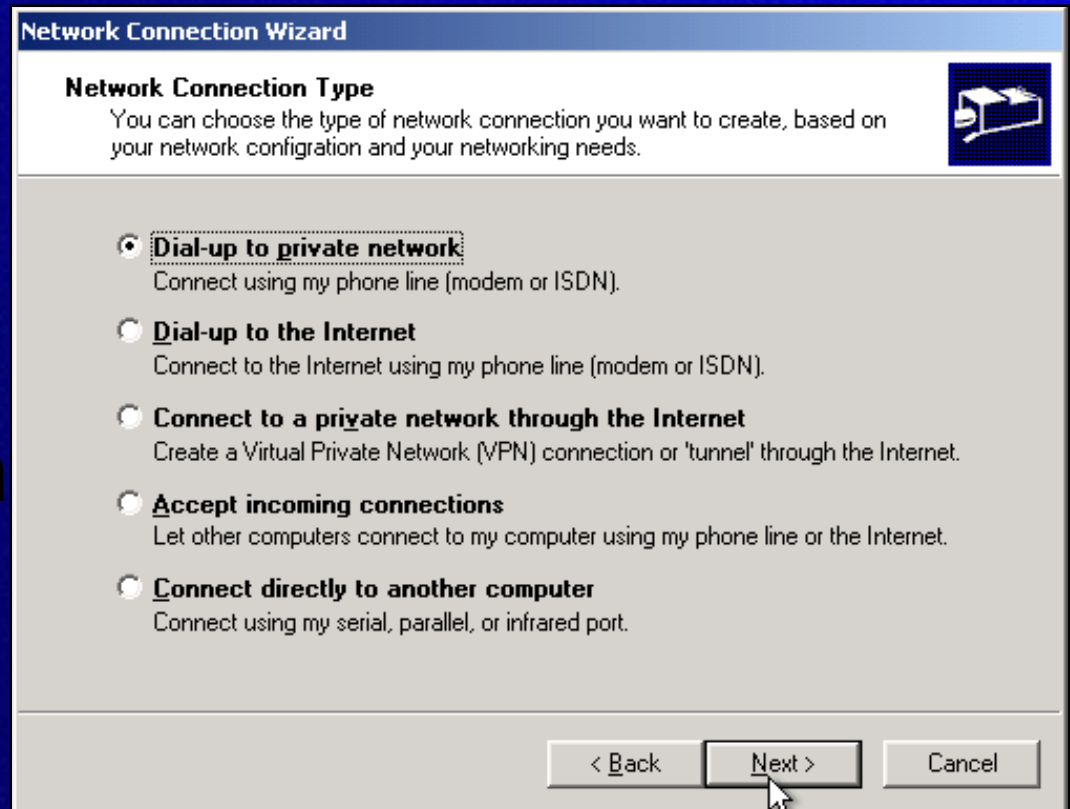
Network Configuration

- ◆ Unified UI for all network config
- ◆ Make New Connection Wizard
- ◆ Common property sheet layout



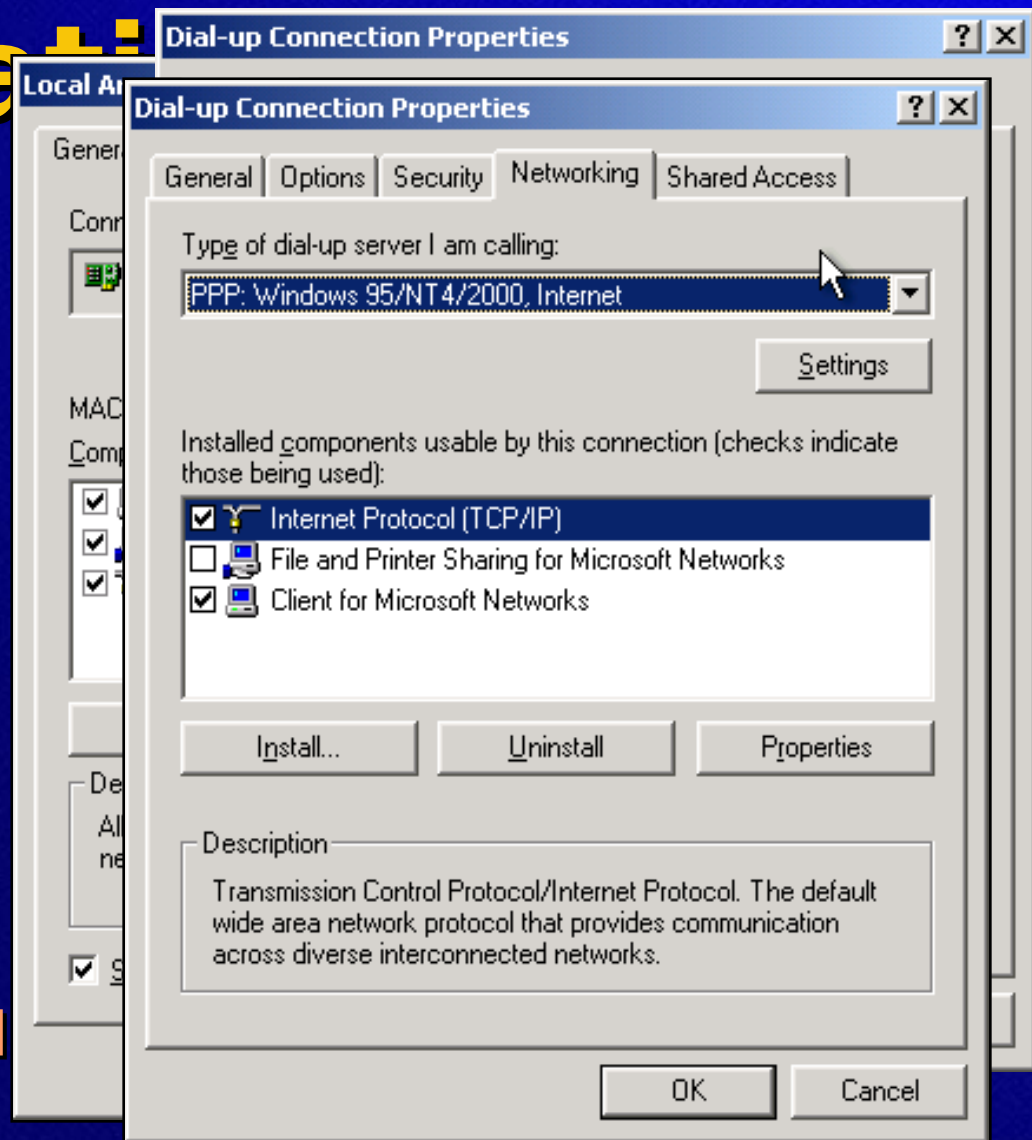
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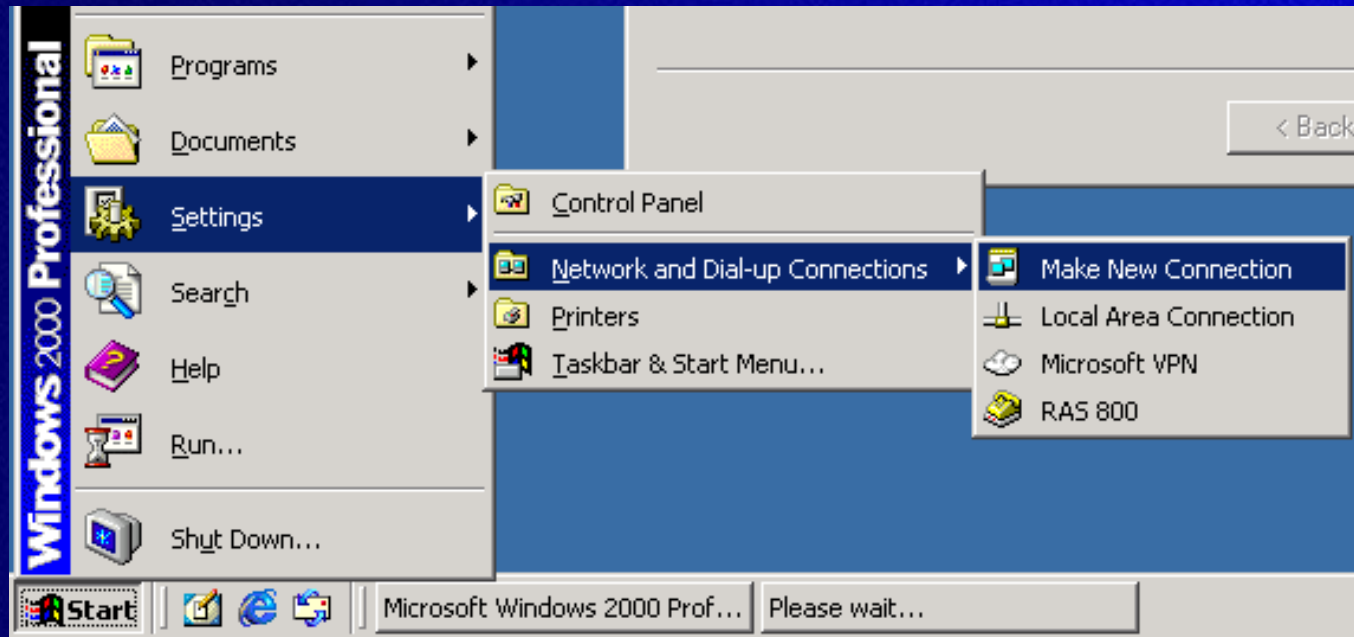


Network Configuration

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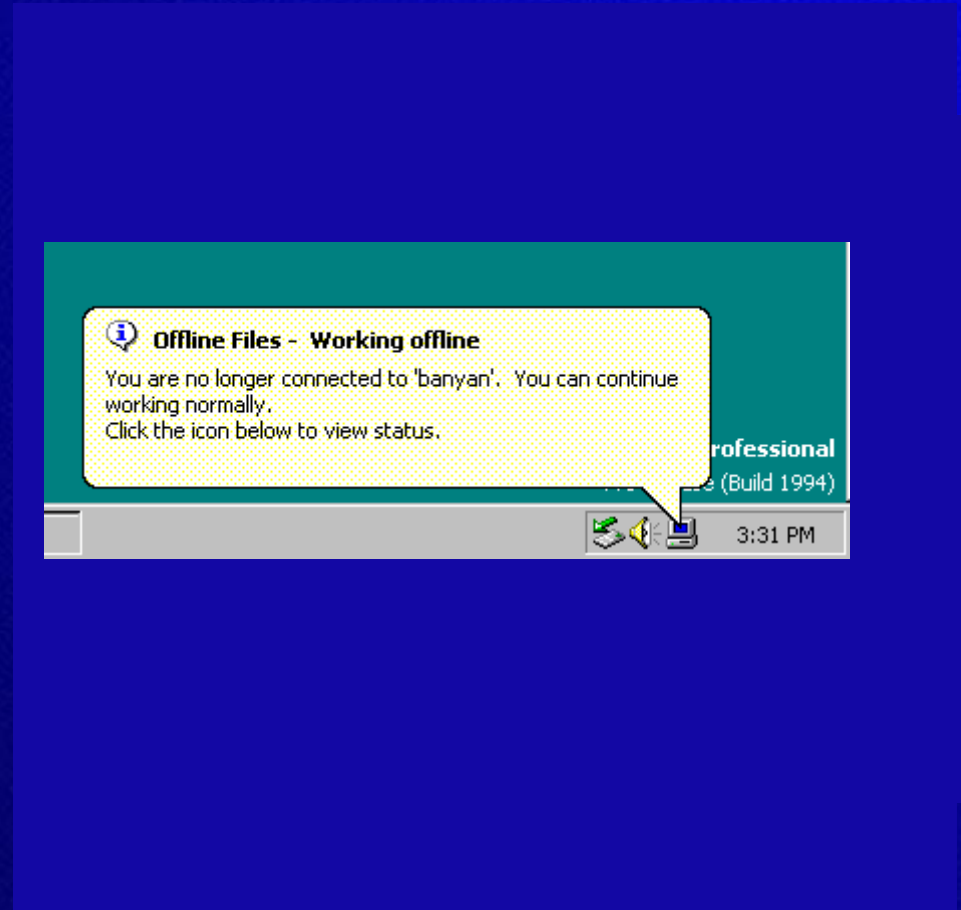
Networking On The Start Menu



- ◆ **Easy access to networking**
- ◆ **Automatically cascades when new connection added**

Offline Files

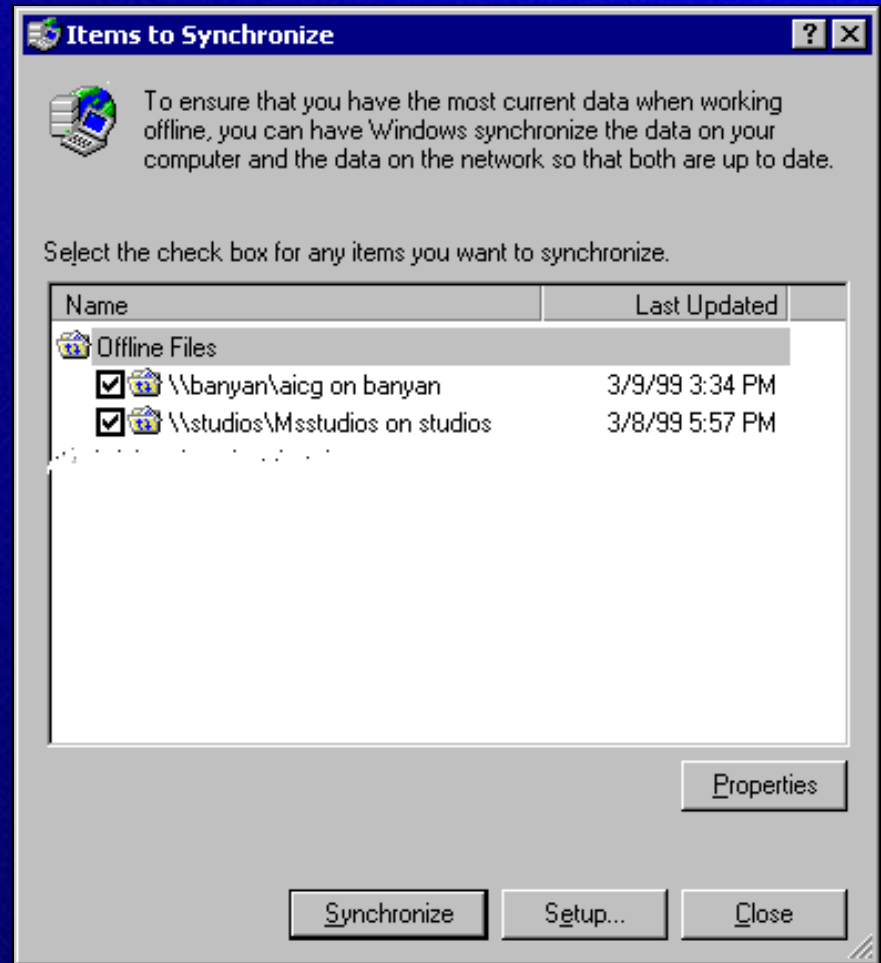
- ◆ **Problem: Users need access to network files when offline**
- ◆ **Files cached locally, but appear in actual namespace**
- ◆ **Offline Files Wizard walks user through setup**
- ◆ **Offline Files Folder provides complete list**
- ◆ **Balloon tips**



Synchronization Manager

One stop for all offline data

- Offline Files/Folders
- Outlook Express
- Internet Explorer
- SQL Server™
- Outlook® (sp1)
- Open API's for



Agenda

- ◆ **Software Advances**
- ◆ **Hardware Advances**

Mobile User

Hardware Advancements

- ◆ **Issues today**
- ◆ **ACPI**
- ◆ **APM versus ACPI**
- ◆ **Plug and Play**

Issues Today

◆ User experience

- Too slow to start
- PC must be on in order to respond to events
- PC too noisy; uses too much power

◆ Inconsistent system behavior

- Wake-up method (e.g., modem ring) is not generic or extensible
- Power states (standby, suspend) not interpreted uniformly
- Hardware, BIOS, operating system, and applications do not cooperate to effectively manage power

What ACPI Enables...

- ◆ **Both power management and Plug and Play in Windows 2000**
- ◆ **Integrates system board devices into driver-based device power management**
- ◆ **Improves Plug and Play support**
 - **More flexible device ejection and resource configuration**
- ◆ **Improves robustness**
 - **Power management policy is coded once in operating system, not in every BIOS**
 - **Control code is executed within the operating system environment**
- ◆ **Eases development**
 - **Standard components; drivers and chipsets**
 - **Abstract and flexible: hardware can evolve without**

Supported ACPI Features

- ◆ Plug and Play and Power Management
- ◆ Standby
- ◆ Hibernate
- ◆ Hot & Warm Docking/Undocking
- ◆ Dynamic device insertion/removal
- ◆ Wakeup events (RTC, PCI, USB, PS/2, Serial)

Power Management - Not Supported

- ◆ **Cardbus wakeup not supported**
 - **Includes: Wake-on-LAN for Cardbus**
- ◆ **PCMCIA wakeup not supported**

What Machine Should I Buy?

◆ Windows 2000 ACPI Good BIOS List

- If machine is found on ACPI Good BIOS List then ACPI is turned on
- Machines that are placed on the Good BIOS List are guaranteed to have base level functionality for Beta 3 and RTM without the requirement if a new BIOS
- BIOS upgrade may be required for enhanced functionality (Hot-Docking,

Look For Windows 2000 Logo

- All BIOS's with a BIOS date of 1/1/99 or newer will be considered good

APM Versus ACPI

APM

- ◆ BIOS manages PM
 - BIOS decisions not well communicated to OS
- ◆ Poorly defined power states
- ◆ Poorly defined event handling interface
- ◆ Hundreds of BIOS versions

ACPI

- ◆ OS manages PM
 - Communicates changes to apps and hardware
- ◆ Strictly defined power states
- ◆ Strictly defined event handling interface
- ◆ Chipset based: fewer than ten chipsets

Bottom line: ACPI is more controlled, and has fewer opportunities for bugs

Supported Plug And Play

◆ Features

- **All machines**
- **Full Plug and Play** (dynamic enumeration, configuration, device arrival and removal) support on: PCI, AGP, PC-Card, USB, 1394, ISAPNP
- **Limited support** (static config only) on: ISA, EISA
- **Dynamic rebalance of resources** including across bridges
- **Enhanced pnp event notification** over Windows 98
- **Security checks** on all Plug and Play events
- **Support for Windows Update** in driver installation

◆ ACPI Systems

- **Device locking** (on ACPI systems only)
- **Interrupt routing** via _PRT
- **Docking**
 - Hot, Warm, Cold docking
 - No ISA devices in dock

◆ Legacy Systems

- **Docking**
 - Cold docking only
 - No warm or hot docking (no UI for eject)
- **Legacy machines:** motherboard device configurations are treated statically
- **Interrupt routing** via \$PIR

Not Supported

- ◆ **Non-multi-monitor video adapters in the dock**
- ◆ **Dynamic PNP events / configuration via PNPBIOS**
- ◆ **Hot-plug PCI and Hot-swap PCI**
- ◆ **Multilevel rebalance**
- ◆ **PC-Card devices not supported:**
 - **SRAM cards**
 - **Flash memory cards (note: flash ATA cards are supported)**

Additional Mobile Technologies

- ◆ **USB**
- ◆ **PC-Card**
- ◆ **Device Bay**
- ◆ **Infrared**

- ◆ **IEEE 1394**
- ◆ **DRIVER.CAB**
- ◆ **Etc...**

Better on Windows 2000 because:

- ◆ **Best-of-breed class drivers**
- ◆ **Consistent, vendor-neutral implementations**
- ◆ **More reliable**

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- ◆ Curriculum which applies to this session: 1563a

Where do you want to go **today?**

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